

The Bear

A bear, starting at point A, walks one mile south, then turns and walks one mile east, then turns again and walks one mile north and arrives back at point A.

What color is the bear?

MontCAS

Test Design

Session	Number of Items Grades 3 through 5			Number of Items Grades 6 through 8 and 10		
	Calculator	Common	Field Test	Calculator	Common	Field Test
1	No	18 MC 2 SA 1 CR	4 MC	no	14 MC 3 SA 1 CR	3 MC 1 SA 1 CR
2	No	19 MC 1 SA	3 MC 1 SA 1 CR	yes	21 MC	3 MC 1 CR
3	Yes	18 MC 1 CR	3 MC 1 CR	yes	20 MC 1 CR	4 MC

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Number of Items per Form

Operational	Field Test	Total
55 MC 3 SA 2 CR	10 MC 1 SA 2 CR	65 MC 4 SA 4 CR

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Blueprint - Percent of Point Distribution by Montana Standards

Standard	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
1	Embedded in other standards						
2	34%	34%	32%	32%	27%	27%	20%
3	12%	12%	12%	12%	12%	12%	16%
4	15%	15%	16%	16%	18%	18%	20%
5	15%	15%	12%	12%	12%	12%	12%
6	12%	12%	15%	15%	18%	18%	20%
7	12%	12%	12%	12%	12%	12%	12%

5 Big Questions

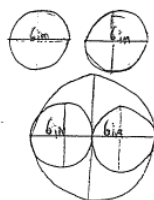
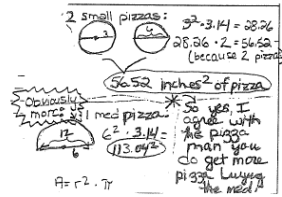
- ***Is the content of the item correct?***
- Is the item aligned to the standard?
- Is the DoK coding correct?
- Is the item maximally accessible?
- Is the item developmentally appropriate?

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PRONTO PIZZA

6. Cathy and Tom placed an order for 2 individual round pizzas at Pronto Pizza. When their order was delivered they received one round medium pizza. The delivery person explained that there was a shortage of 6-inch pizzas and that they would really have more pizza by getting the medium 12-inch pizza. Do you think the delivery person is correct? Justify your answer.



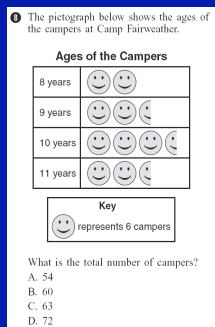
5 Big Questions

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- **Is the DoK coding correct?**
- Is the item maximally accessible?
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Depth of Knowledge Levels

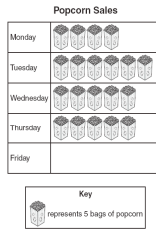
Level 1	Recall
Level 2	Skill/Concept
Level 3	Strategic Thinking
Level 4	Extended Thinking

From the work of Norman Webb



DOK:2

Students sold a total of 130 bags of popcorn during a popcorn sale. Marge is making this pictograph to show the number of bags of popcorn sold on each day of the sale. The sales for Friday are missing.



How many  does Marge need to add to the pictograph to show Friday's sales? Show your work or explain how you know.

5 Big Questions

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- Is the DoK coding correct?
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5 Big Questions

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Item Statistics

- Does the item behave as expected?
- Data provides clues about the item
- Item and data review is a judgment process

Item Difficulty

- **Multiple-Choice Items**

Percent of students with a correct response.

0.00 _____ 1.00

Difficult _____ Easy

- **Constructed-Response Items**

Average score on the item.

Range is from 0.00 to 4.00

Item Discrimination

- How well an item separates higher performing students from lower performing students
- Range is from -1.00 to 1.00

Differential Item Functioning

- DIF (F-M) – females compared to males who performed the same on the test are compared on their performance on the item
- positive number reflects females scoring higher
 - negative number reflects males scoring higher
 - NS means no significant difference

Steps in Item Development

- Passage Selection
- Bias Review of Passages
- Item Writing
- Internal Review
- Revisions
- Committee Review
- Revisions
- Bias Review of Items
- Revisions
- Item Selection
- Field Testing
- Review of Statistics
- Acceptance into Operational Item Pool

4/5 of all dentists recommend Brand X toothpaste. What percent of dentists do not recommend Brand X?
